


REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE DTIC SELECTED AUG 17 1994 S B D			3. DISTRIBUTION/AVAILABILITY OF REPORT DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.		
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION OPERATIONS DEPARTMENT		6b. OFFICE SYMBOL (If applicable) C		7a. NAI AD-A283 711 	
6c. ADDRESS (City, State, and ZIP Code) NAVAL WAR COLLEGE NEWPORT, R.I. 02841		7b. AD			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS			
		PROGRAM ELEMENT NO.		PROJECT NO.	TASK NO.
				WORK UNIT ACCESSION NO.	
11. TITLE (Include Security Classification) Operational Support: The Vital Need For Casualty Receiving and Treatment Ships (v)					
12. PERSONAL AUTHOR(S) Commander James R. Hoffower, NC, U.S. Navy					
a. TYPE OF REPORT FINAL		13b. TIME COVERED FROM TO		14. DATE OF REPORT (Year, Month, Day) 17 June 1994	
				15. PAGE COUNT 40	
16. SUPPLEMENTARY NOTATION A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	Vital need for casualty receiving and treatment ships.		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
Abstract of OPERATIONAL SUPPORT: THE VITAL NEED FOR CASUALTY RECEIVING AND TREATMENT SHIPS					
An increasing number of unstable regional events may necessitate the involvement of US combat troops. Sailors and Marines Operating from amphibious ships, may find themselves increasingly involved in these regional struggles and in conflicts with limited objectives. Once marines are sent ashore from amphibious ships, certain of these platforms become Casualty Receiving and Treatment Ships. The presence of these platforms to support the fighting forces is essential for the provision of timely medical care and in the sustainment of morale and motivation of the troops. This paper examines the importance of these ships to the operational commander as he plans various missions. It suggests avenues that will allow the commanders to avoid issues which might hamper optimal effectiveness in their utilization. This includes the 1) early access of medical planners to the commander; 2) continued refinement of the medical augmentation planning system; and 3) aggressive inclusion of medical staffs and planners in fleet exercises, and wargames.					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS PRT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
a. NAME OF RESPONSIBLE INDIVIDUAL CHAIRMAN, OPERATIONS DEPARTMENT			22b. TELEPHONE (Include Area Code) 841-3414		22c. OFFICE SYMBOL C

(Unclassified Paper)

NAVAL WAR COLLEGE
Newport, RI

OPERATIONAL SUPPORT: THE VITAL NEED
FOR CASUALTY RECEIVING AND TREATMENT SHIPS

by

JAMES R. HOFFOWER
Commander, NC, U.S. Navy

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: James R. Hoffower

17 June 1994

Paper directed by Captain L. Watson, U.S. Navy
Chairman, Operations Department

Approved by:

Captain Raymond J. Mach, U.S. Navy

R. Mach
Faculty Research Advisor

16 May 94
Date

288 94-25881



DTIC QUALITY INSPECTED 1

94 8 16 063

Abstract of

OPERATIONAL SUPPORT: THE VITAL NEED
FOR CASUALTY RECEIVING AND TREATMENT SHIPS

An increasing number of unstable regional events may necessitate the involvement of US combat troops. Sailors and Marines Operating from amphibious ships, may find themselves increasingly involved in these regional struggles and in conflicts with limited objectives. Once marines are sent ashore from amphibious ships, certain of these platforms become Casualty Receiving and Treatment Ships. The presence of these platforms to support the fighting forces is essential for the provision of timely medical care and in the sustainment of morale and motivation of the troops. This paper examines the importance of these ships to the operational commander as he plans various missions. It suggests avenues that will allow the commanders to avoid issues which might hamper optimal effectiveness in their utilization. This includes the 1) early access of medical planners to the commander; 2) continued refinement of the medical augmentation planning system; and 3) aggressive inclusion of medical staffs and planners in fleet exercises, and wargames.

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

TABLE OF CONTENTS

CHAPTER	PAGE
ABSTRACT	ii
LIST OF TABLES	iv
I INTRODUCTION	1
II ECHELONS OF CARE	7
III CASUALTY RECEIVING AND TREATMENT SHIPS	10
Classes of Ships	10
Medical Personnel Assets	11
Theater Evacuation Policy	12
IV FACTORS IMPACTING OPERATIONAL USEFULNESS OF CRTSs	13
Utility	13
Medical Augmentation Program	15
Training	17
V COMBAT SERVICE SUPPORT PRINCIPLES	20
VI CONCLUSIONS AND RECOMMENDATIONS	22
APPENDIX 1--COMPOSITION OF FLEET SURGICAL TEAM	25
APPENDIX 2--AFLOAT MEDICAL CAPABILITIES OF AMPHIBIOUS SHIPS	26
NOTES	31
BIBLIOGRAPHY	34

LIST OF TABLES

TABLE		PAGE
I	EXAMPLE OF MARINE EXPEDITIONARY UNIT	4
II	ECHELONS OF CARE/DOD THEATER OF COMBAT MEDICAL SYSTEM . .	9
III	CASUALTY RECEIVING AND TREATMENT SHIPS (CRTS)	10

CHAPTER I

INTRODUCTION

History changed at a breakneck pace in the early 1990's. Following the end of Communism in the former Soviet Union, and the dissolution of the Warsaw Pact, the period known as the Cold War era ended. "The world has changed dramatically in the last (four) years, and America's national security policy has also changed. As a result, the priorities of the Navy and Marine Corps have shifted..."¹ Although these changes tend to suggest a reduced threat of Global confrontation, we must now be concerned with heightened regional political, military, and economic instabilities which hold significance to our national interests. How we handle our future operations and what we are capable of operationally conducting take on a greater emphasis when focused on our abilities to perform "joint operations conducted from the sea."²

For Operational Commanders, the Navy's 1992 White Paper, "...From the Sea: Preparing for the 21st Century" provides planning considerations when supporting "forward presence" and "crisis response" roles. "As force reductions and over seas base closures continue and forward-based soldiers and airmen return, marines and sailors will leave home to fill in the gap in forward presence."³ Operational Logistics,⁴ which includes medical support for personnel evacuation and hospitalization, should be viewed as the CINC's intent of underwriting, or assuring operational success. "The emergent idea is that logistics and sustainment make major contributions to the warfighting CINC."⁵

Attainment of optimal effectiveness when developing plans for the execution of missions operating forward, must include a concern for addressing the capabilities and/or limitations imposed by the receipt of large numbers of casualties.⁶ This presents considerable challenges for Operational commanders and their medical planners. Emphasis must be given to including medical planners as early in the CINC's planning cycle as possible. A potential force multiplier is realized when the right mix of skilled medical

personnel, adequately trained, and appropriately assigned to the right platforms exists for the purpose of providing operational support to troops engaged in conflict. The ultimate significance to the operational commander will be found when optimal numbers of marines and sailors remain in the theater of operations following treatment of disease or injuries.

Amphibious ships represent vital sites on which to promote medical support of casualties during Amphibious Assault Operations. Specifically, certain ships are assigned the role of Casualty Receiving and Treatment ships (CRTSs). Medical support provided on a CRTS, reinforces one of the key pillars of Combat Service Support - Sustainment.

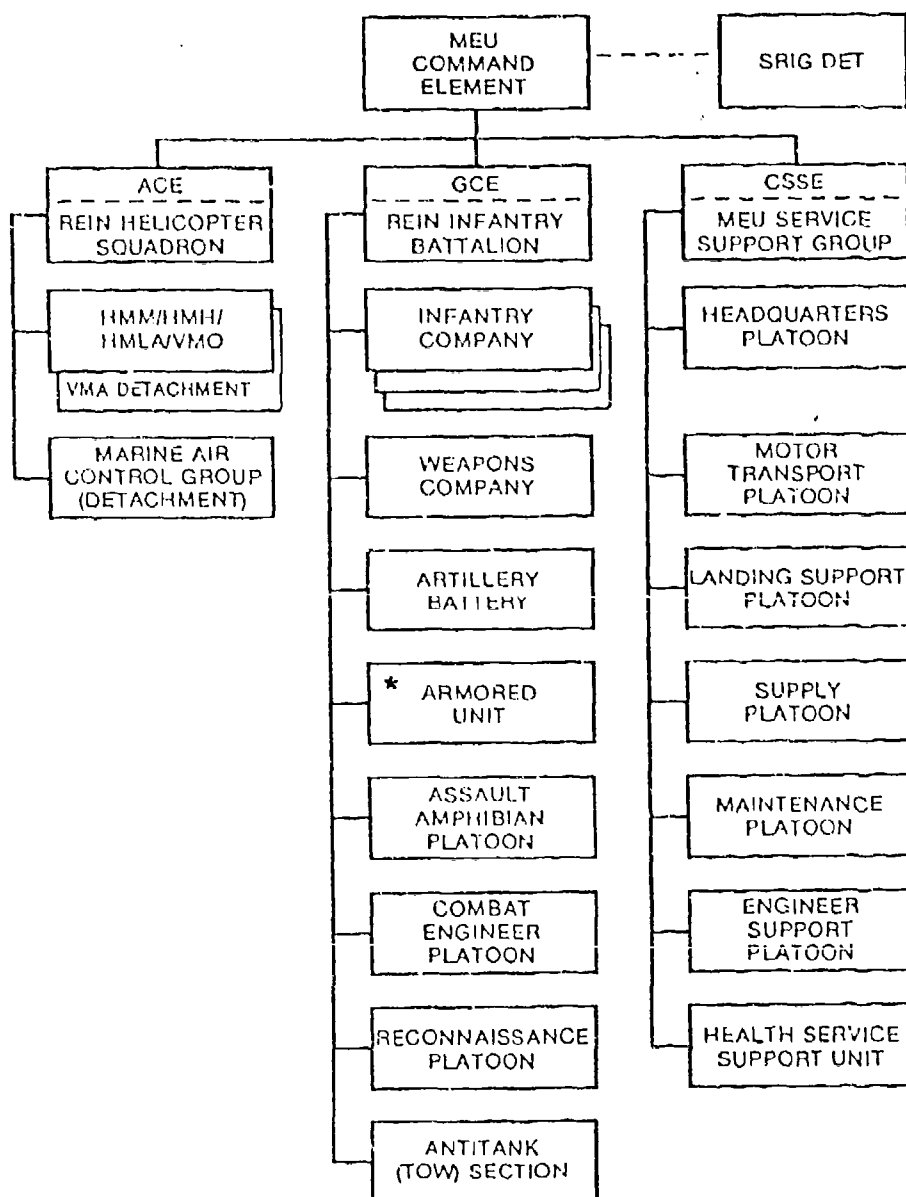
The concept of utilization is simple and utilitarian. Marines embarked on Amphibious ships are structured primarily as Marine Expeditionary Units (MEU), Brigades (MEB); or Forces (MEF). "The MEU (Marine Expeditionary Unit) has become the CINC's force structure of choice for forward deployed Marine Corps units."⁷ The MEU has between 1000 and 4000 marines and sailors. Table I gives an example of a MEU's composition. As forward projection forces, they go ashore with their own internal medical support which will provide basic casualty care on land. Then, designated amphibious assault ships are reconfigured to receive casualties. Augmented medical personnel provide resuscitative treatment and stabilization until the Marines are fully established ashore. When CRTSs are utilized with their inherent medical capability, they provide the operational commander and the embarked forces the means to sustain combat power. Continued flow to rearward Communication Zone (COMMZ) sites occurs for the more critically injured for receipt of more definitive and specialized care. The CRTSs provide the availability to immediate care and potentially "...increases the return of the combat wise men to duty and improves the combat soldier's morale and willingness to take necessary risks."⁸ In short, yet quite importantly, they allow for timely casualty treatment as part of a continuum of care.

The Navy has a methodology for moving and addressing casualty needs starting at the lowest level of care required by a casualty. This includes movement of the member from the battlefield through to

the most definitive care facility in the Continental United States (CONUS) if required. But, effective casualty flow has not always been readily available. In the late 1970's, there were critical elements of medical support identified as missing.

TABLE I

EXAMPLE OF A MARINE EXPEDITIONARY UNIT



* Tanks, LAVs, or both.

Source: Marine Air-Ground Task Force: Global Capabilities, USMC: FMFRP2-12.

This included a lack of prepositioned supplies and equipment and no Hospital ships. Literally, this would have represented a "war stopping" constraint. During the conduct of Amphibious Operations today, the threats of modern enemy weapon systems to traditional avenues of ministering to the sick and wounded would significantly challenge our capabilities. CRSTs "...may still be required to stand out many additional miles from shore to remain out of artillery range."⁹ The availability of transportation sources for returning casualties will represent a significant threat to our abilities to provide care for casualties in a timely fashion. The assurance of having air superiority can not always be counted on to facilitate medevacs by helicopter. Consequently, evacuation may place an increased emphasis on surface craft. If medical logistics are burdened portending a paucity of supplies and equipment, improvisation of the techniques necessary to provide care at all echelons may be the only answer.

The Operational commander must be cognizant of the existence of well prepared, executable medical readiness plans. He needs to know that he has the personnel to execute treatment plans and the platforms on which to do so. Not only is this vitally important to the commander, but it is also for the soldiers entrusted with executing the plans. RADM James A. Zimble, MC, USN (RET), a former Surgeon General of the Navy, states: "A well prepared, ready and able military medical system conveys four powerful messages. It tells American people that its leaders have prepared means to care for their sons and daughters who may be sent into harm's way; it tells our adversaries that we have a credible, sustainable fighting force; it tells our military commanders that we will sustain their forces; and it tells our troops that we care."¹⁰

By having MEUs forward deployed, one source of possible fast, flexible response through amphibious operations is readily available. Recently, marines have been tasked during the execution of their forward presence and crisis response responsibilities to execute a full spectrum of responses including Combat operations and Operations other than War (OOTW). Examples include combat operations in Grenada in 1983; Disaster relief in Bangladesh and the Phillipines in 1991; Humanitarian

assistance in Northern Iraq in 1991; and Noncombatant evacuation operations (nonpermissive)(NEO) in Liberia (1990-91) and Somalia in 1991. These examples reflect the value found in the flexible capability of the amphibious ships to be used as CRTSs in support of the operational commander's plans. As plans are developed, casualty handling requirements will be generated requiring operational support. These will include the provision of service specific resources such as the CRTSs as well as including joint and combined support from other services, allies, and host nations. They have multifaceted capabilities in that they can be effectively employed throughout a spectrum of operational scenarios.

It is acknowledged that jointness is highly desired, and will play significantly in the success of all future operations. This paper will present a discussion which focuses on issues surrounding a Navy specific asset and its relevance to the Operational commander. Inter and intra service cooperation is mandatory for success to be realized in today's various operational arenas. New weaponry, intelligence gathering techniques and sophisticated countermeasures are hallmarks which suggest that a single service cannot singly ensure mission success. The CRTS represents an enabling force in the provision of support to troops conducting operations. The value of having CRTSs is more greatly enhanced when one examines issues which support and challenge their valid importance.

Prior to embarking on a discussion defining the importance of the CRTS, it is necessary to set the groundwork that identifies the medical mission and how casualty flow occurs through a combat service support continuum. An explanation of the various levels of care (Echelons) and the factors which impact effective Echelon II care delivery will be examined.

CHAPTER II

ECHELONS OF CARE

Medical care as a component of operational logistics, is a consideration which can "...ultimately determine the order of battle and the tactics employed..."¹ General P.X.Kelly, former Commandant of the Marine Corps noted "...the professional knows how easily an operation can founder without these naval support elements."² "The primary mission of the Navy Medical Department is to provide to the commander the necessary medical resources to care for the sick and injured members of the Department of the Navy in peace and war."³ If one is unable to be successfully returned to duty (RTD), evacuation occurs following the initial provision of measures for resuscitation and stabilization. The intent is to decrease morbidity and mortality as much as possible.

Medical support is considered a Combat Service Support function. It is logistics support which is crucial for the operational commander to understand as it represents potential capabilities or limitations which must be addressed when determining how to most effectively utilize force assets. "...Commanders during combat are dependent upon the less seriously wounded and ill being cared for and returned to battle as quickly as possible."⁴ To achieve this mission, medical planning is guided by the following principles similar to any logistics function: Sustainability; Simplicity; Responsiveness; Flexibility; Survivability; Economy; and Attainability.⁵ A discussion of their pertinence will follow in Chapter IV.

Care of the ill and wounded evolves along five echelons of medical care. Table II outlines the levels of care and the related assets which are available for providing the differing care requirements. In order to understand the importance of the CRTS in Echelon II level of care, a brief explanation of the care provided from initial battlefield injury through the medical care continuum to the definitive care facility is necessary.

Echelon I includes the most immediate and rudimentary care provided. It represents first aid measures administered through self/buddy aid, by a unit corpsman, or battalion aid station personnel. It is provided by the medical assets which accompany the Marines ashore. While not sophisticated in scope, it does represent the most mobile form of care. As a rule of thumb, the care becomes less mobile, yet more technically sophisticated as one flows from the lowest level of care (Level I) to the highest (Level V).

Echelon II provides initial resuscitative care, both medical and surgical. The care is to stabilize life and/or limb with the intent of evacuation to Echelon III care. Blood and blood products are available along with limited laboratory and radiological support. Care at this level is provided on carriers, CRTSs, and ashore by companies of the medical battalion.

Echelon III becomes more definitive in scope. It has a higher level of medical and surgical capabilities. Expanded laboratory and radiological support is available along with greater surgical subspecialists. Care is provided in Fleet Hospitals, and Hospital Ships.

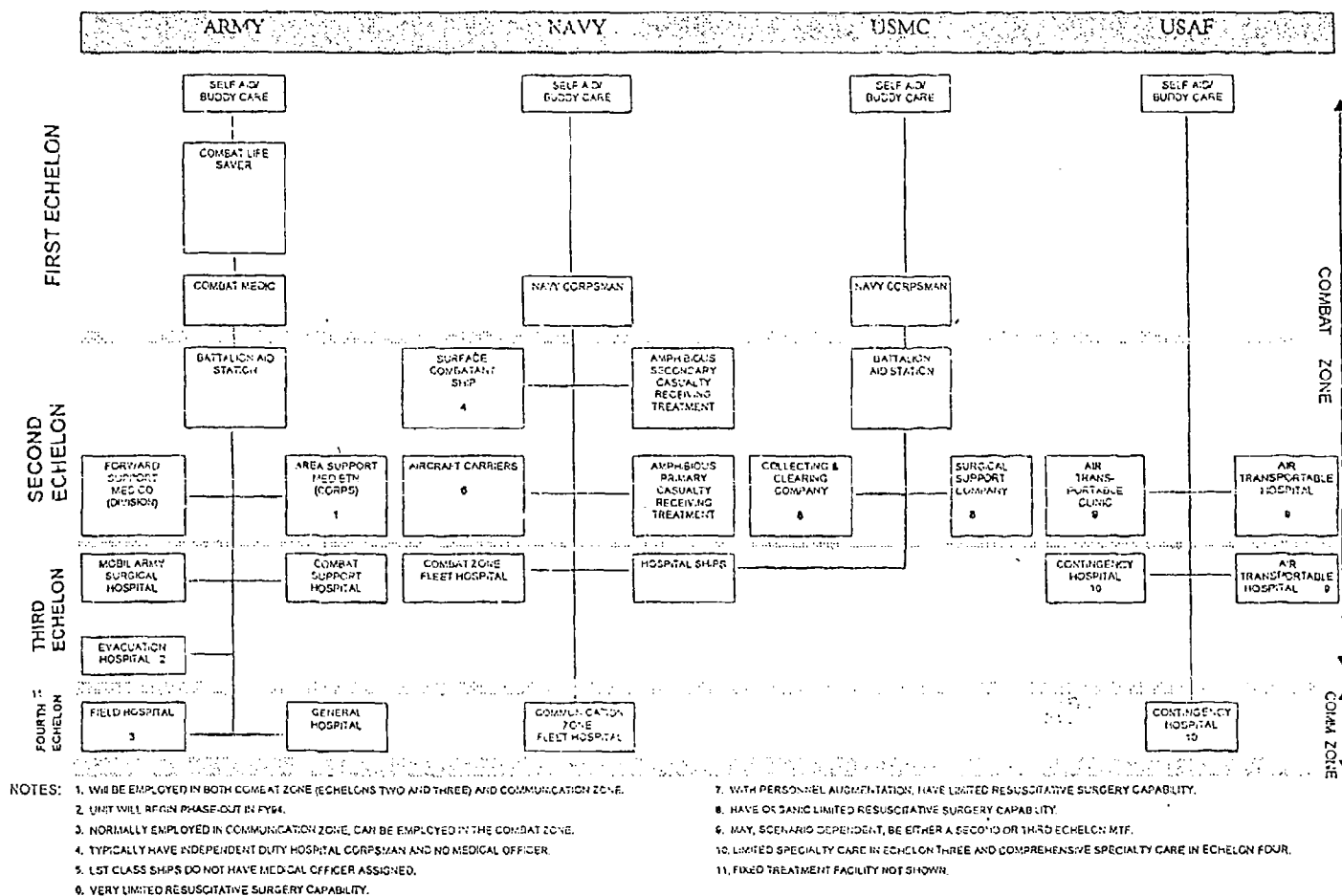
Echelon IV provides surgical capability and additional definitive therapy for those in a recovery phase. Some individuals might RTD if in compliance with the theater evacuation policy. Care is usually provided at fixed medical facilities such as overseas hospitals.

Full restorative and rehabilitative care is provided in Echelon V facilities. These are located in the Continental United States (CONUS). This would include military hospitals, selected civilian hospitals and Veterans Administration Hospitals.

The system is designed to be as flexible as possible and allow for an optimal number of casualties to be retained in the theater for RTD. The defined scope of care rendered at each echelon can be modified to most effectively achieve this purpose.

TABLE II

ECHELONS OF CARE/DOD THEATER COMBAT MEDICAL SYSTEM



Source: Joint Chiefs of Staff. Doctrine For Health Services Support in Joint Operations. Joint Pub 4-02 (proposed final), Washington, 1993.

CHAPTER III

CASUALTY RECEIVING AND TREATMENT SHIPS

Classes of Ships.

CRTSs' responsibilities for the provision of Echelon II care are predominantly assigned to amphibious ships in three classes: LHD, LHA, LPH. These ships are configured to handle the greatest number of casualties. Additional ships in other classes (LSD, LPD) can be pressed for space if needed.

Table III outlines the types and quantities of space capabilities available by ship type.

TABLE III

CASUALTY RECEIVING AND TREATMENT SHIPS (CRTS)

After troop debarkation from amphibious ships, LHD/LHA/LPH class ships expand their medical capacities to support the landing force. Because the primary mission of amphibious ships is to transport troops, a CRTS can only receive casualties during a period before moving to another location. After initial treatment, patients aboard CRTSs are moved to more definitive care MTFs in theatre as soon as possible.							
CRTS CAPABILITIES							
Ship Type	No. Ships	ICU Beds	Ward Beds	Quiet Room	Overflow Beds	OR's	Physicians Normal/War
LHA	5	17	48	4	250-300	4	1/16
LPH	7	2	14	2	175-200	2	1/11
LHD	5	17	41	4	500-550	6	2/26
LISTING OF CRTSs BY TYPE							
LHA		LPH			LHD		
TARAWA (PAC) SAIPAN (LANT) BELLEAU WOOD (PAC) NASSAU (LANT) PELELIU (LANT)		IWO JIMA (LANT) OKINAWA (LANT) GUADALCANAL (LANT) GUAM (LANT) TRIPOLI (PAC) NEW ORLEANS (PAC) INCHON (LANT)			WASP (LANT) ESSEX (PAC) KEARSAGE (LANT) BOXER (PAC) BATTAN (LANT)		

Source: BUMEDINST 4812.1 14 April 1992.

It is important for the commander to understand, based upon medical planners inputs, that plans for any operation cannot be constructed based solely around knowledge of the physical parameters of a particular amphibious platform. Rather, the embarked medical personnel, their level of training and readiness to perform the mission and the available supplies and equipment will impact what options may or may not be available when needed for execution.

Medical Personnel Assets.

Medical Personnel assets normally embarked on Amphibious ships are Fleet surgical teams (FST). These are "21 man medical augmentation teams permanently assigned to Fleet CINCs."¹ Mobile Medical Augmentation Readiness teams (MMARTS) can be requested to supplement operating forces.² These units are assigned during peacetime periods. They are comprised of medical department subspecialists, assigned as needed, and include Medical, Surgical, and Psychiatric teams. Appendix 1 reflects the composition of a FST. Wartime personnel augmentation is provided by the Medical Augmentation Program (MAP) which was formerly known as the Medical Personnel Unit Augmentation System (MPUAS).

Following debarkation of the marine units, casualties will be evacuated from the beach to the CRTSs by lifts of opportunity. The primary mode for accomplishing this is helicopter. Additionally, Amphibious Assault Vehicles (AAVs), and Air Cushion Landing Craft (LCACs) are surface craft which can be used. These possibilities will be examined more closely later in this paper.

The essence of evacuation is to transfer a casualty as rapidly as possible in order to take advantage of the period known as the "Golden Hour". In trauma situations, the receipt of care within the first hour following injury optimizes the individual's chances for survival. "The most demanding medical support is needed during the casualty's admission, initial workup, resuscitative surgery, and

stabilization. This manpower intensive effort is the same whether the evacuation policy is 5 or 15 days."³

Theater Evacuation Policy.

Theater evacuation policies represent a "commander's decision indicating the length in days of the maximum period of noneffectiveness that patients may be held within a facility."⁴ If unable to return to duty, the patient will be sent to a higher echelon of care as his condition permits. This policy is usually set by the Operational Commander. It is subject to adjustment to accommodate the changing demands of operations. The hope is that the experience of the soldier can be maintained in the theater following recovery within an established timeframe. However, there are tradeoffs when evacuation policies are changed. Fewer casualties can be received on a platform and more medical resources will be required as evacuation periods are lengthened.

The overarching aim of the medical mission is to provide members with the quickest and best quality care possible. There is a very strong correlation between the availability and accessibility to casualty care with the morale and will to fight demonstrated by the troops. The Operational commander must understand how his medical system functions. Medical planners' inputs involved at every level of decision making can help in enhancing this process. Comprehensive mission plans can better be formulated when based on information which will reflect what advantages and limitations impact on performing littoral operations.

CHAPTER IV

FACTORS IMPACTING OPERATION USEFULNESS OF CRTSs

"New weapons and communications technology, as well as new forms of assault vehicles, are expected to favor over the horizon amphibious assaults in the years ahead."¹ This places an increased emphasis on the commander to want assurances that appropriately trained and deployable medical personnel are available to support such missions. Emphasis should be targeted on continual improvement in capabilities to intervene with casualty treatment in forward located positions and at the location of the lowest possible level of care. CRTSs play an important early role in treating and sustaining optimal numbers of personnel for possible return to duty.

Although a relatively simple process conceptually, the importance that the role of the CRTS holds can be monumental to the commander. The consequence of having aggressively considered advanced logistical and manpower planning requirements in addressing bed availability, patient movement from the beach, and staffing and training issues will positively impact the overall effectiveness of an operation. The following represent considerations which could effect any type of operation, combat or operations other than war. They will, when combined with a discussion of the principles of combat service support, highlight the importance of the CRTS to future amphibious operations.

Utility.

Major F.X.Bergmeister stated while supporting the need for the Echelon III level Hospital Ships that "...the inherent MEB/MEF afloat medical capabilities aboard the amphibious ships (LHDs,LPHs,LKAs) provide an impressive inventory of medical care to the first wave of Marines and sailors upon any future opposed sea-based landing."² LHDs will lead the way in the number of beds

made available and the significant surgical capability for the MEF ship mix. Appendix 2 reflects the capabilities found on these vessels.

The advent of more sophisticated destructive weapons will mean that amphibious ships will potentially be located further from shore than during previous operations. An issue of air superiority allowing helicopters to traverse freely from the ships to the beaches and back may be contested during future amphibious operation. While not protected by the Geneva Conventions, these platforms are more flexible than the T-AH Hospital Ships as they can "protect themselves in the performance of their mission."³ If air superiority is not contested, the ships would be able to receive patients by helicopter, which is considered to be the transport of choice. However, since any lift return with patients is done on the basis of opportunity, one cannot fully depend on this mode of transport being consistently available.

Alternative transportation modes might include Amphibious Assault Vehicles (AAVs). The limitation for this surface craft centers around the configuration of the vehicle for casualty transport and its slow speed. It is a vehicle meant to transport troops, tightly shouldered, to the beach as an assault is initiated. It is not capable of loading and transporting multiple stretchers with casualties. Optimal use would be for transport of the "walking wounded" or ambulatory casualties.

An additional surface craft which provides a better alternative for casualty transport is the Landing Craft Air Cushion (LCAC). This is a rapid moving vehicle which again is primarily utilized for the movement of troops and material to the beach. It is quite noisy. Design issues have been addressed which will allow these flexible craft to return with multiple casualties. The utilization of a shelter option known as the Deployable Rapid Assembly Surgical Hospital (DRASH) provides "...a medically configured collapsible shelter, (which) ...appears to have the best characteristics for adaptability as a portable on board medical shelter for LCAC."⁴

One mode of transportation which could benefit the casualty lift issue would be the MV-22 Osprey. This has not been tested, and therefore it can only be speculated as to its future value in casualty transport. It would seem that if appropriately configured, the increased speed, size, and helicopter capabilities would make it an asset for casualty transport to an amphibious vessel.

Decisions which impact the commander include careful weighing of issues regarding the ability to transport increased numbers of combat troops over considerations pertaining to the number of medical support personnel. When medical teams embark, they usually consume a great deal of space with their supplies and equipment. The space configurations of a fixed sized ship will mean the trade off of one component or the other. Missions will create decision trees concerning the facilitation of larger numbers of embarked personnel. In the future, possible plans might include the phasing of medical personnel aboard vice embarking the entire unit early in the execution of the mission. This has as yet been not tried.

With respect to utility, the concept of utilizing amphibious ships as CRTSs is both practical and feasible. The rearward area during future operations may increase in size. Therefore, the distance needed to medevac a patient would increase relative to the offshore distance of the Echelon II platform. But, this means that Echelon III facilities such as the T-AH hospital ships, become less accessible also. Thoughts have been given to expanding the care providing capabilities on the CRTSs from Echelon II to Echelon III. The limitations to this however center on the additional equipage, supplies and personnel required.⁵ New LHDs would have the space and configurational setup to accommodate the provision of an advanced level of care.

Medical Augmentation Program.

MAP was previously known as the Medical Personnel Unit Augmentation Program (MPUAS). It represents a system which is designed to get the appropriately identified personnel to specific platforms

to meet wartime needs. By priority, MAP assigns personnel to the Fleet Marine Force (FMF), CRTSs, T-AH Hospital Ships, and the Fleet Hospitals. The peacetime MMART team personnel would assume their wartime contingency assignment under MAP when required. The MAP represents a refinement of the older MPUAS program which was utilized for the first time during Operation Desert Shield/Desert Storm (ODS).

The appropriate identification of personnel to platforms refers to the fact that they have received a specific type and quantity of training specific to their wartime augmentation assignment. This is crucial as medical support personnel should be fully prepared to integrate into their specific platform and perform their support function without the benefit of long periods of unit specific training having to occur following embarkation. ODS represented an exceptional case in that personnel had ample time to train and acclimate to their operational assignments prior to the initiation of hostilities. This represents an aberrant case and should not be counted upon as representing the norm in the future.

The MAP creates a tracking system for the appropriate assignment and readiness preparation of all medical personnel so that optimal preparedness for support of any operational need is readily available. It tasks Commanding Officers of medical facilities with ensuring that operational preparedness is given high visibility and that physical and skill preparation is accomplished. Health Service Organizations (HSOs) are entrusted with the callup of personnel and assigning them to their appropriate platform. This creates a controlled flow to the operational platforms, such as the CRTSs, while preventing any single CONUS medical facility from losing an disproportionate number of personnel.

The new BUMED instruction 6440.5A is designed to facilitate this process. Provision of the correct number of medical personnel with the correct specialty mix is essential to the coverage of operational platforms. Prior to MAP, the random assignment of personnel to various platforms did occur. This showed a lack of regard for readiness preparation, specific training requirements, and created oversights in the assignment of the correct specialty medical mix (i.e. Surgeons, Operating Room nurses,

etc.). For example, a manning document may require that a Nurse Corps Officer with critical care experience or Operating Room credentials be assigned. This would be done to man specific platform requirements. To send nurses without the necessary qualifications on a random basis in order to fill a platform's mobilization requirement could be quite deleterious to mission accomplishment. This can potentially lead to mission degradation especially if the requirement for support services is immediate. When considering how fast casualty receipt and care needs could arise on a CRTS, suboptimal care related to an experience/assignment mismatch could represent a critical issue to the commander.

As with all new iterations of previous online programs, MAP will take a period to become fully implemented. Commands are now being tracked quite closely for compliance while preparing their personnel to assume contingency roles. Adherence to old methods of assigning personnel to their platforms will only exacerbate old problems which need to be eliminated fully.

Training.

Reference to needing "well trained personnel" is used frequently, almost to a point where the real intent has been dilutionally lost. It would appear to be quite a basic statement, and one which the operational commander would assume occurs naturally leaving little need for concern. But, one should not be quite so sure that the appropriate type of training has always been attained. While it is ultimately up to the individual to know his operational assignment and be responsible for seeking the training he needs, that is sometimes an issue beyond his personal control. Access to training specific class seats, medical treatment facility (MTF) staffing issues, and securing individual command support for sending personnel to training highlight further challenges which impacts upon training preparation.

Medical training specific to any platform is frequently thought to be of little consequence as the medical professional brings his necessary professional knowledge and skills with him. While we have the best medical system in the world, this thinking as it pertains to an operational platform is errant.

"Today, most health care personnel have never experienced combat, and have little or no experience with the injuries resulting from battle."⁶ The predominance of injuries might well be comprised of penetrating wounds and burns. Peacetime training institutions for graduate medical education programs (GME) attempt to meet accreditation standards which are primarily civilian training standards. Exposure to injuries most often seen in combat are not encountered in large quantities during military training programs for physicians. Additionally, surgeons largely perform elective operations gaining little proficiency in handling severe trauma such as might be encountered on a CRTS.

The warfighter gains proficiency in their job by performing missions specific to the skills required during an operation. For example, "...an Amphibious Readiness Group (ARG) is a balanced, combined arms organization built around core units (battalions; squadrons, Service Support Group) that routinely train with one another, thereby building habitual relationships with each other and with MEU headquarters."⁷ This largely does not apply to the medical staff. While we deploy Fleet surgical teams with the Amphibious ships during all peacetime periods, this does not represent the population that needs the additional experience to support the wartime needs of the marines.

Utilizing and supporting every opportunity which will train and prepare medical personnel to assume their platform specific support role is essential. There needs to be ongoing medical planning and exchange of ideas at all levels. Including medical support issues in wargaming scenarios will reflect potentially deficit areas needed in planning capabilities for any operation occurring in a littoral setting. The sponsors of various wargames need to specifically ask for this to be done. And finally, as a possible means of increasing the wartime skill readiness of medical personnel, the development of "...a major medical educational and training facility-operating at a post graduate level-that is dedicated to the professional development of both the providers of health care and the managing of health services. A tri-service Armed forces Medical War College..."⁸ is an excellent answer.

An examination of these three areas of issues which impact on the successful achievement of operations with respect to the CRTSs must necessarily remain ongoing. Greater utility and flexibility will be afforded the CRTS as these areas continue to improve. Certainly, the positive efforts trained at addressing each area is ongoing in ways which will allow these platforms to most optimally support operations coming . . . "From the Sea."

CHAPTER V

COMBAT SERVICE SUPPORT PRINCIPLES

Medical personnel assigned on the CRTSs support and enhance the many roles which might be expected of marines and sailors conducting amphibious operations coming from over the horizon. This includes combat operations and limited objective warfare. But, in order to do this, it requires solid planning, as has been emphasized, at all levels. Combat service support (CSS) personnel are guided by seven principles which are much like the principles of war. These principles act as guides for developing plans, and in their management and execution. By briefly examining each one, it becomes easier to see how they justify the assigned personnel's role in making the CRTS a valued asset to the commander in planning. The principles are not equally weighted when applied to different scenarios. They are not meant to be. Rather, they act as guides in analytical planning.

The keystone principle to CSS is Responsiveness. When assigned to CRTS platforms, personnel are providing the right care when needed and at the correct site. "All else becomes irrelevant if CSS units cannot support the concept of the supported unit."¹ CSS responsiveness is directly aligned with the supported commander's priorities; that is, his concept of operations. Operation Desert Storm (ODS) showed that CSS provided at all levels was extremely responsive to the needs of the commander in supporting the troops in a very flexible manner.

"Flexibility is the ability to adapt CSS structures and procedures to changing situations, missions, and concepts of operations."² The abilities to "get the job done" during a period of changing priorities again reflects how CSS units capably executed their support roles during ODS before, during and following the actual conflict. The ability to anticipate and execute alternative plans was key to the support provided. In large part, it ties itself in nicely with the principle of Economy. That is to say, the most was accomplished with what was sometimes considered to be the least in resources. On the CRTSs,

economy of space also needs to be accomplished in accommodating the medical personnel assigned along with the embarked marines.

CSS elements must be able to accomplish providing their support in order to sustain the overall mission. This is Attainability. Any mission can be jeopardized if a necessary level of support cannot be provided. Adequate planning would allow the commander to know that at least minimum levels of support are on hand and what impact to mission success this might portend.

Sustainability represents the ability to maintain support throughout an operation. The logistic planning for potential long term support is the biggest challenge for the logistician. Sustainability may well be dependent upon Economy and Flexibility. The commander and the troops must know that medical support will endure throughout the operation. It takes early planning coordination to effect this.

Lastly, "Survivability is the inherent capacity of the organization and its capabilities to prevail in the face of potential destruction."³ Planning for the possible degradation of CSS capabilities from either the physical environment or the enemy is essential.

As is true with planning for operations of any kind, planning for the provision of successful medical combat service support must integrate the principles of CSS. "...A successful, comprehensive naval strategy is equally contingent upon (an) effective medical support capability."⁴ When medical planning is begun as early as possible, the end results are efficient, effective casualty care.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The CRTSs represent an indispensable link in combat casualty care. They represent combat platforms with augmented medical personnel. They must be responsive to an operational plan and flexible enough to adapt as required to rapidly changing scenarios in order to be effective. When properly trained, equipped, and staffed, Echelon II level of care delivers the element of sustainability to troop strength. In essence, casualties require immediate response in order to optimize their survivability following wounding or disease. The continuum of medical support is most effective when availability to medical treatment can be readily accessed. Factors affecting the receipt of care are influenced by the success of various transportation modes reaching the ships; the distance of the platforms from the shore; evacuation policies; and the unknown elements found in the friction of modern warfare.

A most important aspect of having the CRSTs is realized by not only the operational commander, but especially by the soldiers. Morale is heightened when support personnel and facilities are available. During Desert Storm, many young marines expressed a strong willingness to fulfill their assault mission with the confidence of knowing that visible, working medical facilities were available¹ for their support if needed.

In order to facilitate the provision of first rate care, casualty scenarios must be aggressively included during fleet exercises. Altogether too frequently, after-action reports have reflected limited inclusion of medical problems during their exercises. For platforms to be optimally prepared to provide medical support, crews must be stressed during training with realtime casualty flow scenarios while continuing operations are occurring.

Wargaming is another avenue of identifying potential weaknesses. Sponsors of wargames must request that specific scenarios be included in their games which include medical support

situations. For vessels like the CRTS, which have not been critically challenged since the USS GUAM took 36 casualties during Urgent Fury, planning and exercising for future scenarios is of paramount importance.

Medical planners need critical access to commanders and at the earliest time possible. They must think and plan for joint options. "They must be familiar with the health care systems of all other services including their own unique assets, missions, capabilities and limitations, and doctrinal employment."² Plans, when produced, should be as complete and realistic as possible, with thorough forethought having been given the recommended actions. This means that flexibility in creating responses to changing situations can best be directed when access to the appropriate commander is available.

Although plans for utilization for CRTSs have been presented as a single service asset, their real utility and importance lies in potential intratheater joint plans and cooperation. To illustrate what might have created a significant problem, the following is excerpted from the Joint Uniformed Lessons Learned System (JULLS) from Urgent Fury, and shows the importance of joint planning and execution. "Army medical units were unfamiliar with the medical support capabilities of the LPH and therefore were unable to develop adequate triage plans based upon the capabilities of the ship. Casualty flow from the beach to the ship was frequently sporadic, resulting in lost time and effort due to regulate the inflow of casualties."³ Coordination between service capabilities is paramount to ensuring that optimal medical support is provided.

Plans need to be simple and feasible. The commander should be briefed early in the process in order to avoid the pitfalls of working under assumptions. He does not have the need to know every detail regarding medical support. But, he should be informed adequately enough to be able to ask the right questions at the right time in facilitating the best overall planning choices.

For continued improvement of the CRTS as a platform providing Echelon II care, attention should be directed to the following alternatives;

- Continued development and refinement of the Medical Augmentation Program (MAP).
- Access by senior medical planners to operational commanders early in the planning process.
- Aggressive exercise of plans, evaluation, and redefinition as needed.
- Attention to medical personnel readiness to include training (T-status) and physical qualifications (C-status).

Casualty Receiving and Treatment Ships are designed to provide essential, short term capabilities along the casualty care continuum. The alternative of having no CRTSs for wounded marines translates into no care except for the limited emergent care provided by the landing forces. The "Golden Hour" period between injury and resuscitative treatment is critical for survival. If evacuation occurs as it is planned for, CRTSs are positioned to provide this necessary care. Without CRTSs, casualties would mount on the beaches seriously eroding capabilities to effectively complete a mission and demoralizing the troops.

The identification and refinement of issues pertaining to effective utilization of CRTSs continues. Greater emphasis on joint solutions will greatly aid the commander. The key is to have the availability of medical support. "Combat casualty care is as integral to military operations as fire support or logistics. It can determine the successes or failure of any military undertaking."⁴

APPENDIX 1

COMPOSITION OF FLEET SURGICAL TEAM

FLEET SURGICAL TEAM

PERSONNEL

- 1 GENERAL SURGEON
- 1 FAMILY PRACTITIONER
- 1 PRIMARY CARE PHYSICIAN
- 1 NURSE ANESTHETIST
- 1 O.R. NURSE
- 1 CHARGE NURSE
- 3 O.R. TECHNICIANS
- 1 MEDICAL REGULATING OFF.
- 1 ADV. HOSPITAL CORPSMAN
- 7 GENERAL DUTY CORPSMEN

APPENDIX 2

AFLOAT MEDICAL CAPABILITIES OF AMPHIBIOUS SHIPS

LPD CLASS

. 1 MINOR OPERATING ROOM

. BED AVAILABILITY

9 WARD BEDS

2 ISOLATION BEDS

75 OVERFLOW BEDS

. PERSONNEL

1 GENERAL MEDICAL OFFICER

6 HOSPITAL CORPSMEN

LSD 41 CLASS

. 1 MINOR OPERATING ROOM

. BED AVAILABILITY

6 WARD BEDS

2 ISOLATION BEDS

100 OVERFLOW BEDS

. PERSONNEL

1 GENERAL MEDICAL OFFICER

1 INDEPENDENT DUTY

CORPSMAN

10 HOSPITAL CORPSMEN

LPH CLASS

. 2 OPERATING ROOMS

. BED AVAILABILITY

2 INTENSIVE CARE BEDS

12-20 WARD BEDS

4 ISOLATION BEDS

125 OVERFLOW BEDS

. PERSONNEL

1 GENERAL MEDICAL OFFICER

10 HOSPITAL CORPSMEN

LHA CLASS

. 4 OPERATING ROOMS

. BED AVAILABILITY

17 INTENSIVE CARE BEDS

48 WARD BEDS

4 ISOLATION BEDS

300 OVERFLOW BEDS

. PERSONNEL

1 GENERAL MEDICAL OFFICER

1 MED SERVICE CORPS OFFICER

15 HOSPITAL CORPSMEN

LHD CLASS

. 6 OPERATING ROOMS

. BED AVAILABILITY

24 INTENSIVE CARE BEDS

60 WARD BEDS

4 ISOLATION BEDS

600 OVERFLOW BEDS

. PERSONNEL

2 GENERAL MEDICAL OFFICERS

1 MED SERVICE CORPS OFFICER

18 HOSPITAL CORPSMEN

Source: Plans, Operations and Medical Intelligence course material given at Naval School of Health Science (NSHS), Bethesda, MD on 3-14 May, 1993.

NOTES

Chapter I

1. From the Sea: Preparing the Naval Service for the 21st Century. (Department of the Navy), September 1992, p.1.
2. Ibid.
3. BGEN Anthony C. Zinni, "Forward Presence and Stability Missions: The Marine Corps Perspective," Naval Forward Presence and the National Military Strategy. 1993, p.196.
4. LCOL David P. Oberthaler, Definition of the term "Operational Logistics."
5. LCOL David P. Oberthaler, "Introduction to Operational Logistics and Sustainment." Naval War College Reading #3131.
6. NWP-6 (Rev. C), Definition of "Casualty," U.S. Navy Department, p.20.
7. Zinni, p.203.
8. Captain Arthur M. Smith, MC, USNR, "The Influence of Medicine on Strategy," Naval War College Review, Spring 1988, p.22.
9. Captain Arthur M. Smith, MC, USNR, "Tactical and Logistical Compromise in the Management of Combat Casualties: There is No Free Lunch." Naval War College Review, Winter, 1990, p.60.
10. Dr. J.V. Haase Ewin. "Military Medical Review: Medical Readiness: The Beirut Experience," Asian Defense, January 1986, p.130.

Chapter II

1. Captain Arthur M. Smith, MC, USNR, "Gator Aid," U.S. Naval Institute Proceedings, October 1992, p.67.
2. Ibid., p.67.
3. NWP-6 (Rev. C), "Operational Medical and Dental Support," U.S. Navy Department (Washington: 1989), p.1-1.
4. Dr. J. V. Haase Ewin, "U.S. Upgrades Medical Readiness," Asian Defense, January 1986, p.86.
5. Combat Services Support, U.S. Marine Corps, pp. 3-1-3-2.

Chapter III

1. Health Service Support, U.S. Marine Corps, p.5-5.
2. Ibid.
3. JCS Pub 3-02.1, "Joint Doctrine for Landing Force Operations." U.S. Joint Chiefs of Staff, (Test) (Quantico, VA: 1989), p.x-28.
4. NWP 6 (Rev. C), p.6-5.

Chapter IV

1. Captain Arthur M. Smith, MC, USNR, "Tactical and Logistical Compromise in the Management of Combat Casualties: There is no Free Lunch.", p.60.
2. Major Francis X. Bergmeister, "Hospital Ships: Need for Future," Marine Corps Gazette, April 1990, p.58.
3. Ibid.
4. LTCOL David G. Henderson, "LCAC in the Medical Evacuation Role," Marine Corps Gazette, January 1990, p.76.
5. PHONECON with Commander Carl Hooton, MSC, USN. Headquarters, USMC, Washington, DC, 4/21/94.
6. Captain Arthur M. Smith, MC, USNR, "RX for Contingency Medical Support," U.S. Naval Institute Proceedings, January 1987, p.61.
7. Zinni, p.200.
8. Smith, "RX for Contingency Medical Support," p.62.

Chapter V

1. Combat Service Support, p.3-1.
2. Ibid., p.3-2.
3. Ibid., p.3-2.
4. CAPT Arthur M. Smith, MC, USNR, "The Influence of Medicine on Strategy, p.22.

Chapter VI

1. These conversations were undertaken by the author and young enlisted marines stationed on various amphibious platforms during December 1990 - January 1991 in the United Arab Emirates prior to Operation Desert Storm while stationed on the USNs Comfort, T-AH 20.

2. Smith, "The Influence of Medicine on Strategy," p.34.

3. Joint Uniformed Lessons Learned System (JULLS), #31739-76243. "Medical Affairs," 11/02/83.

4. Smith, "RX for Contingency Medical Support," p.56.

BIBLIOGRAPHY

- Bergmeister, Major Francis X. "Hospital Ships: Needs For Future." Marine Corps Gazette, April 1990.
- Bureau of Medicine and Surgery (BUMED), BUMED Instruction 4812.1, 14 April 1992, Subj: Logistics Support and Mobilization Plan (LSMP).
- Conversation with James R. Hoffower, CDR, NC, USN, Enlisted marines during Operation Desert Shield in December 1990-January 1991.
- Eiseman, RADM B. "The Next War: A Prescription." U.S. Naval Institute Proceedings, January 1975.
- Ewin, Dr. J.V. Haase. "Military Medical Review: U.S. Upgrades War Medical Readiness." Asian Defense, June 1986.
- ". . . From the Sea - Preparing the Naval Service for the 21st Century." Navy and Marine Corps White Paper. Washington: September 1992.
- Fry, LTCOL Mary T. and Robert S. Kayler, Commander, USN. "Health Service Support In Joint Operations - Operation "Urgent Fury." Unclassified/Limited Technical Report, July 1989.
- Graham, Amy; A. Dale Burns, CDR, USN; Linda Keefer. Desert Storm Reconstruction Report, Volume XI: Medical, October 1991.
- Henderson, LTCOL David G. "LCAC in the Medical Evacuation Role." Marine Corps Gazette, January 1990.
- Herman, J.K. "A Conversation With the Surgeon General." Navy Medicine, January-February 1994.
- Houton, LCDR Carl J. "Medical Support for the FMF: Far in the Rear, Too Much Gear." Marine Corps Gazette, April 1990.
- Interview with LCDR Dan McDonagh, USN, Sims Hall, War Gaming Department, Naval War College, 4/21/94.
- Interview with HMC R. Sickle, USN, U.S. Naval Hospital, Newport, RI (Medical Mobilization Planner), 4/13/94.
- Jaroch, COL Roger M. "Supporting Land Warfare." U.S. Naval Institute Proceedings, November 1988.
- Joint Uniformed Lessons Learned System (JULLS) Long Report. "Medical Affairs" #31739-76243." Submitted by DON, Unclassified, Conducted by USCINCLANT on 11/02/83.
- Jordan, Robert T. "Situation Report: Hundreds of Casualties - Without Adequate Medical Care." Seapower, January 1986.

- Loftus, VADM Stephen F., USN. "Supporting Forward-Deployed Forces." Naval Forward Presence and the National Military Strategy, 1993.
- Mertz, LCDR Kenneth A. Jr. "Medical Management in High Intensity Combat - Can It Be Done?" Marine Corps Gazette, April 1990.
- Oberthaler, LTCOL David P., USA. "An Introduction to Operational Logistics and Sustainment." Naval War College Reading #3131.
- PHONCON with CDR Carl Houton, MSC, USN Medical Office Headquarters, USMC, Washington, DC 4/21/94.
- PHONCON with LCDR Lee Ras, MSC, USN at BUMED-271 (Assistant Pland and Anaiysis), 4/27/94.
- PHONCON with LCDR Stambach, MC, USNR on Fleet Surgical Team 1, San Diego (is the medical officer for PHIBGRU 3), 4/21/94.
- Riley, CAPT Terrence. "Medical Service in the FMF: Time For a Change." Marine Corps Gazette, September 1991.
- Smith, CAPT Arthur M. "Gator Aid." U.S. Naval Institute Proceedings, October 1992.
- Smith, CAPT Arthur M. "RX for Contingency Medical Support." U.S. Naval Institute Proceedings, January 1987.
- Smith, CAPT Arthur M. "Safeguarding the Hospital Ships." U.S. Naval Institute Proceedings, November 1988.
- Smith, CAPT Arthur M. and COL Craig H. Llewellyn. "Tactical and Logistical Compromise in the Management of Combat Casualties: There is No Free Lunch!" Naval War College Review, Winter 1990.
- Smith, CAPT Arthur M. "The Influence of Medicine on Strategy." Naval War College Review, Spring 1988.
- Smith, CAPT Arthur M. "War at Sea: Unique Challenges for Navy Medicine." Navy Medicine, January-February 1993.
- Stewart, James D. "Evacuating the Wounded: Why It Will Be So Difficult." Military Logistics Forum, January/February 1986.
- Tesar, LCDR Frank J. "Medical Training - An Essential Warrior Skill." Marine Corps Gazette, April 1990.
- U.S. General Accounting Office. "Operation Desert Storm: Improvements Required in the Navy's Wartime Medical Care Program." Report to the Chairman, Subcommittee on Military Forces and Personnel, Committee on Armed Services, House of Representatives. Washington: July 1993.

U.S. General Accounting Office. "Operation Desert Storm: War Offers Important Insights into Army and Marine Corps Training Needs." Report to the Honorable Nancy Landon Kassebaum, U.S. Senate. Washington: August 1992.

U.S. Joint Chiefs of Staff. Doctrine For Health Service Support in Joint Operations. Joint Pub 4-02. (Proposed Final) Washington: 1993.

U.S. Joint Chiefs of Staff. Doctrine For Operations. Joint Pub 3-0. Washington: 9 September 1993.

U.S. Joint Chiefs of Staff. Joint Doctrine For Amphibious Operations. JCS Pub 3-02. Washington: October 1992.

U.S. Joint Chiefs of Staff. Joint Doctrine For Landing Force Operations. Operational Handbook 1-100. JCS Pub 3-02.1 (TEST) Quantico, VA: November 1989.

U.S. Joint Chiefs of Staff. Unified Action Armed Forces. JCS Pub 0-2. Washington, December 1986.

U.S. Marine Corps, FMFM4 - Combat Service Support, Headquarters, USMC, Washington: 1987.

U.S. Marine Corps, FMFM 4-50 - Health Service Support, (Coordinating Draft) Headquarters, USMC, Washington: 1989.

U.S. Navy Department. Operational Medical and Dental Support. NWP-6 (Rev. C), Unclassified Naval Warfare Publication, Washington: March 1989.

Zinni, BGEN Anthony C., USMC. "Forward Presence and Stability Missions: The Marine Corps Perspective." Naval Forward Presence and the National Military Strategy, 1993.